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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/370,724	08/07/1999	BABAK NADER	M-7371-US	8423

7590 03/29/2005

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EXAMINER

ELALLAM, AHMED

ART UNIT PAPER NUMBER

2662

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/370,724

Applicant(s)

NADER ET AL.

Examiner

AHMED ELALLAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This communication is responsive to amendment filed on October 18, 2004. The amendment has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 1, 3-8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the connection between the user and the NVT server.

In claim 1, it is recited "the NVT apparatus allows a user to create at least one task for the at least one task type by entering parameters into a template for each of the at least one task", However it is the preamble that recites "the NVT apparatus comprising", since the NVT apparatus comprises a network under test, ... NVT server, a probe network, it is not clear which element of the NVT apparatus that enable the user to create the at least one task. The relationship between the user and the "element" that enable the user must be specified, since it is necessary to make the claim more definite.

Claims 3-8 depends from claim 1, thus they are subject to the same rejection.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 9-11, 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Liese et al, US (5,854,889).

Regarding claim 1, with reference to figures 1 and 2, Liese discloses:

- a network under test 20;
- custom servers (ISDN custom server 22, CG custom server, ...) that execute test cases, see column 3, lines 9-28, (Claimed at least one probe network device coupled to the network under test, the at least one probe network device hosting at least one task type);
- Execution server 16 coupled to the custom servers (claimed an NVT server coupled to the at least one probe network device); wherein
- a user at the network under test communicates to a client machine which test or test cases are to be executed, the test or test cases can be edited before transmission to the execution server 16 which coordinates the execution of test cases by the custom servers, see column 3, lines 9-47. Liese further discloses that the client machine 32 includes a GUI (Graphical User Interface) that provides an interface for managing test cases (e.g. create, change delete, store access...), see column 3, lines 29-47. (Claimed NVT apparatus allows a user to create at least one task for the at least one task type by

entering parameters into a template for each of the at least one task, the NVT server is capable of transmitting the at least one task to the at least one probe network device hosting the task type, and the at least one probe network device is capable of executing a process corresponding to the at least one task).

Regarding claim 4, Liese discloses that a custom server is CG server (call generator), see column 3, lines 17-19, column 6, lines 34-35.

Regarding claim 9, with reference to figures 1 and 2, Liese discloses a method for testing a network, comprising:

- providing a test network 20 having custom servers (ISDN custom server 22, CG custom server, ...) that execute test cases, see column 3, lines 9-28, (Claimed providing a test network having at least one probe network device coupled to a network under test, the at least one probe device hosting at least one task type);
- providing an Execution server 16 coupled to the custom servers (claimed providing a NVT server coupled to the at least one probe network device);
- a user at the network under test communicates to a client machine which test or test cases are to be executed (claimed executing the task type associated with the at least one task on the at least one probe network device in order to form a process), the test or test cases can be edited (claimed specifying at least one task type) before transmission to the execution server 16 which

coordinates the execution of test cases by the custom servers, see column 3, lines 9-47. Liese also discloses that the execution server conveys protocols for successful completion of test request to custom servers that performs the requested tests, see column 4, lines 19-23. (claimed converting the at least one task for transmission to the at least one probe network device; and transferring the at least one task to at least one probe network device). See column 3, lines 29-47.

- Providing the user with the test results, see column 3, lines 48-63. (Examiner interpreted the provisioning of test results to the user as being the claimed monitoring the test network in order to determine performance).

Regarding claim 10, Liese discloses:

- a client machine 32 (claimed NVT client) coupled to the execution server 16 (claimed coupling an NVT client to the NVT server);
- retrieving test cases by the client machine, See column 3, lines 38-39, (claimed transmitting a collection of templates corresponding to at least one task type to the NVT client);
- managing test cases (templates) (e.g. create, change delete, store access...), see column 3, lines 19-26 and column 3, lines 29-47, (claimed entering parameters into at least one of the collection of templates to form at least one task);
- communicating the test case information to the execution server, see column 3, lines 19-26. (Claimed transmitting the at least one task to the NVT server).

Regarding claim 4, Liese discloses that a custom server is CG server (call generator), see column 3, lines 17-19, column 6, lines 34-35.

Regarding claim 11, Liese discloses that a custom server is CG server (call generator), see column 3, lines 17-19, column 6, lines 34-35.

Regarding claim 17, with reference to figures 1 and 2, Liese discloses: user at the network under test communicates to a client machine which test or test cases are to be executed, the test or test cases can be edited before transmission to the execution server 16 which coordinates the execution of test cases by the custom servers, see column 3, lines 9-47. Liese further discloses that the client machine 32 includes a GUI (Graphical User Interface) that provides an interface for managing test cases (e.g. create, change delete, store access...), see column 3, lines 29-47. Liese also discloses that the execution server conveys protocols for successful completion of test request to custom servers that performs the requested tests. (Corresponding to forming at least one task, the at least one task being formed by entering task parameters into a task template, interpreting the task parameters to form task code that can be transmitted to one of the at least one probe network device that host the task).

Regarding claim 18, Liese discloses that a custom server is CG server (call generator), see column 3, lines 17-19, column 6, lines 34-35. (Claimed the at least one task is selected from group consisting of a traffic generator.

Regarding claim 19, with reference to figures 1 and 2, Liese discloses:

a user at the network under test communicates to a client machine which test or test cases are to be executed (claimed sending task templates to a user), the test or

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test cases can be edited before transmission to the execution server 16 (claimed receiving tasks formed by the user entering parameters into the task templates) which coordinates the execution of test cases by the custom servers, see column 3, lines 9-47. Liese also discloses that the execution server conveys protocols for successful completion of test request to custom servers that performs the requested tests (claimed translating the task code; and translating the task code to probe network devices). See column 3, lines 29-47, and column 4, lines 19-23. (Examiner interpreted the transmission from the client to the custom server as being the translating the task to task code for transmission)

Regarding claim 20, Liese discloses that a custom server is CG server (call generator), see column 3, lines 17-19, column 6, lines 34-35. (Claimed the task templates corresponding to task type, the task type is a traffic generator).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liese in view of Czarnik et al, US (5,812,529).

Regarding claim 2, Liese discloses that the user (client) 32 coupled to the Execution server through the bus 12 (client/server architecture), and that the bus can be

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configured in any topology desired so long as there is a communication link between client machine (s) 18 and Execution server 16 and custom servers 14. See column 6, lines 11-24. (Claimed user is coupled through (an Internet) a connection to the NVT server).

Liese doesn't specify the connection between the client and the execution server is an Internet connection.

However, Czarnik in the same field of endeavor discloses an Internet connection between a client and a server, see column 5, lines 23-30.

Therefore, it would have been obvious to an ordinary skill in the art at the time the invention was made to be motivated by teaching of Liese of the "any communication link" between the client and server changed to an Internet link as taught by Czarnik so that client/server architecture of Liese be adapted to an Internet environment. The advantage would be the ability to apply the testing of Liese in both packet switched and circuit switched networks.

Regarding claim 16, Liese discloses substantially all the limitations of parent claim 4, except it doesn't disclose that the client and custom server coupled through the Internet and the templates and at least one task are transmitted using JAVA/HTML.

However, Czarnik in the same field of endeavor discloses an Internet connection between a client and a server, see column 5, lines 23-30. Wherein the templates and a task are transmitted using JAVA, see column 3, lines 33-43. (Examiner interpreted the "missions request" as being the templates and the "mission" as being the task).

Therefore, it would have been obvious to an ordinary person of skill in the art at the time the invention was made to implement the JAVA protocol along the Internet connection as taught by Czarnik in lieu of the client/server architecture of Liese so that Liese testing apparatus/method be adapted to an Internet environment. The advantage would be using the known JAVA browsing in carrying out the testing of Liese by downloading the task cases (templates) and carrying remote testing over the Internet.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Liese.

Regarding claim 3, with reference to figure 2, Liese shows that the execution server is coupled through the bus 12 (claimed Ethernet control network) to the custom servers (claimed at least one probe network device).

Liese doesn't disclose a communication server between the bus (Ethernet control network) and the custom servers (claimed at least one probe network device).

However, Applicant discloses that the communication server couples probes network devices to the control network 12., and that the NVT server is coupled to control network and communicates through communication server to network probes. See specification page 8, lines 11-15. (Examiner interpreted the function of such arrangement (communication server and the NVT server) as being the same function of Liese Execution server, since the execution server couples the bus and the custom servers).

It would have been obvious to an ordinary person of skill in the art at the time the invention was made to make the direct connection of Liese execution server to the custom server through another server (communication server) so that scalability to the number of execution server can be provided if a need arises.

5. Claims 5 and 12 rejected under 35 U.S.C. 103(a) as being unpatentable over Liese in view of Newman, US (5,987,633).

Regarding claim 5 and 12, Liese discloses substantially all the claim limitation of respective parent claims 4 and 11, except it doesn't explicitly disclose that the call generator server (claimed call generator) is compatible with a UDP protocol, serial media and SAP.

However Newman discloses a call generator compatible with a UDP protocol, serial media and SAP. See column 3, lines 29-35, column 19, lines 7-18, and column 27, lines 40-45

Therefore, it would have been obvious to an ordinary skill in the art at the time the invention was made to have the call generator of liese being in conformance with the teaching of Newman. An artisan would be motivated to do so that call generator testing of Liese can be expanded to variety of network configurations. The advantage would be the ability to test different traffic patterns of heterogeneous networks.

6. Claims 6, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liese in view of Biber et al, US (4,951,278).

Regarding claims 6, 13, Kenner discloses substantially all the limitations of claim respective parent claims 4 and 11, except it does not disclose a Logical Link Control (LLC) single protocol session emulator or an SDLC (Synchronous Data Link Control) single protocol session emulator.

However, Biber discloses an LLC and SDLC session emulation, see column 7, lines 60-67 and column 8, lines 1-22.

Therefore, it would have been obvious to an ordinary person of skill in the art at the time of the invention to provide Liese clients with the LLC/or SDLC session emulation taught by Biber so that testing can be implemented on LLC/or SDLC compatible devices.

7. Claims 7, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Liese in view of Haeri et al, US (6,385,615).

Regarding claims 7, 14, Kenner discloses substantially all the limitations of claim 7, except it does not disclose an IPX RIP large network emulator.

However, Haeri, with reference to figure 5A, discloses a client 100 comprising an application that has terminal emulation capabilities implemented in an IPX RIP environment. See column 10, lines 5-14, column 17, lines 47-67 and column 18, lines 1-13.

Therefore, it would have been obvious to an ordinary person of skill in the art at the time of the invention to provide Liese clients with the IPX RIP emulation application

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taught by Haeri so that Kenner testing can be applied to networks using IPX RIP protocol.

8. Claims 8 and 15 rejected under 35 U.S.C. 103(a) as being unpatentable over Liese in view of Culbert, US (5,838,968).

Regarding claims 8 and 15, Liese discloses substantially all the limitations of respective parent claims 4 and 11, except it doesn't explicitly disclose the task case (claimed task type) is a CPU device query.

However, Culbert discloses a CPU device query. See column 8, lines 47-59 and column 11, lines 33-44.

Therefore, it would have been obvious to an ordinary person of skill in the art at the time of the invention to provide the client of Liese with the feature of CPU task queries so that the custom server of Liese can carry out testing of CPU devices attached to it. The advantage would be monitoring the processing capacity of the CPU devices of network nodes, enabling Liese's system to shape the traffic in accordance with variable traffic load conditions.

Response to Arguments

9. Applicant's arguments filed 10/18/2004 have been fully considered but they are not persuasive:

112 2nd Rejections:

Applicants had requested the rational behind the missing essential step in claim 1 and its dependents. The rational for the missing step is indicated above. See the 112 2nd Rejections above.

Applicants argue that *Liese neither teaches nor suggests a network verification tool (NVT) apparatus including:*

... an NVT server coupled to the at least one probe network device, wherein the NVT apparatus allows a user to create at least one task for the at least one task type by entering parameters into a template for each of the at least one task . . . ,” as required by independent claim 1, and generally required by independent claims 9, 17, and 19.

Applicants referred to Liese passage on column 3, lines 9-47 which states:

Therefore, according to the present invention, a method and system for heterogeneous network testing by a plurality of users is disclosed. The present invention requires at least one client machine, an execution server, and at least one custom server in a LAN (local area network) or WAN (wide area network) environment for heterogeneous network testing in which one or more client machines communicate with the execution server which in turn manages one or more custom servers that execute requested test cases. The custom servers may be of various types, including ISDN servers, SS7 servers and CG servers. A user on the network communicates to a client machine via a GUI (graphical user interface) which test case or test cases are to be executed. The requested test cases are retrieved and may be edited by the user on the client machine prior to communicating the test case information from the client machine to the execution server which coordinates the execution of test cases by an appropriate custom server. The results of the executed test case are stored and made available to other users on the network.

The client machine includes a GUI (graphical user interface) for performing tests on a variety of equipment using a variety of test cases. The client machine provides authentication abilities to ensure validation of users of the present invention. The GUI of the client machine provides a

user-friendly interface for managing test cases and for conveniently maintaining (e.g. create, change, delete, store, access, etc.) test cases of new or existing test platforms and applications. While test cases can be retrieved from various existing platforms by the client machine, a generic test case can be maintained thereafter. The generic test case is easily directed to an arbitrary environment for performing a test. The client machine has access to file servers containing test cases and database servers for access to test cases. The client machine manages its own set of generic test cases locally or through its own file servers. Multiple users can share test cases maintained by the present invention through their respective client machines to shared file servers.

Given the above passage of Liese, Applicants argue that nothing in Liese is identified by the Examiner that correspond to the claimed "NVT apparatus allows a user to create at least one task for at least one task type..". Examiner respectfully disagrees, first Applicant does not identify in claim 1 which element from the "NVT apparatus that enable the user to create ...", therefore, *Arguendo*, the whole network of Liese can read on the claimed limitation of "NVT apparatus that enable the user to create at least one task for at least one task type ...", since the system of Liese does enable the user to create at least one task for at least one task type.

Applicant argue that from the passage of Liese, that *Liese's client Machine, and not his execution server or customer servers, is responsible for selecting, managing, and maintaining test cases.*

Examiner could not relate Applicants argument with the claimed subject matter. Since there is no "*selecting, managing, and maintaining test cases*" in claim 1.

However Examiner notes that Liese discloses all the limitations of claim 1 (and claims 4, 9-11, 17-20)

Regarding claim 1, with reference to figures 1 and 2, Liese discloses: custom servers (ISDN custom server 22, CG custom server, ...) that execute test cases, the Execution server 16 coupled to the custom servers (which read on an NVT server coupled to the at least one probe network device) and that a user at the network under test communicates to a client machine which test or test cases are to be executed, the test or test cases can be edited before transmission to the execution server 16 which coordinates the execution of test cases by the custom servers (claimed probe network device), client machine 32 includes a GUI (Graphical User Interface) that provides an interface for managing test cases (e.g. create, change delete, store access...).

Therefore, the ability of Liese client machine being enabled for a user for managing the test cases using a GUI, wherein the tests are executed in the customer servers, reads on the claimed *NVT apparatus allows a user to create at least one task for the at least one task type by entering parameters into a template for each of the at least one task.*

With regard to claim 9, Applicants argue that *Liese neither teaches nor suggests "converting the at least one task for transmission to the at least one probe network device"*. Further Applicants argue that the "converting" as indicated by the Examiner

Liese also discloses that the execution server conveys protocols for successful completion of test request to custom servers that performs the requested tests... column 4, lines 19-23.

Applicants did not specify the nature of the protocol conversion in claim 9. The claimed limitation "converting the at least one task for transmission to the at least one probe network device", therefore the conveying of protocols of test requests to customer

servers is regarded as being the claimed conversion of the at least one task, because the task is edited in the client machine by the user (using GUI), once the task is managed by the user it needs to be sent to the proper customer server " claimed probe network device" to be executed. Therefore, in contrast to Applicant assertion, the test request is interpreted as the claimed "test task". Moreover, the task entered by the user of Liese cannot be transmitted unless some form of conversion takes place, because for a file to be transmitted it must be subject to different Layer processing (conversion) to be in the proper format for transmission on the physical medium in accordance the OSI standard model.

With regard to claim 19, Applicants argue that Liese doesn't teaches or suggests "translating the tasks to task code". Examiner respectfully disagrees, Examiner interpreted the transmission from the client to the custom server as being the translating the task to task code for transmission.

Examiner believes that the prior art of Liese is pertinent art and claim 1, 4, 9-11, 17-20 are clearly anticipated by Liese. Similarly, Examiner believes that all the other claims rejected under *Rejections - 35 USC § 103* are proper.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM
Examiner
Art Unit 2662
March 18, 2005


JOHN PEZZLO
PRIMARY EXAMINER